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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/776,701

02/11/2004

Hao Fang

2-4

3435

7590

10/30/2006

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Fairfield, CT 06824

EXAMINER

NEGRON, DANIEL L

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,701

Applicant(s)

FANG ET AL.

Examiner

Daniell L. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11-14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 15, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11, 12, and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Leighton et al U.S. Patent No. 6,512,646.

Regarding claim 11, Leighton et al disclose an impedance matched write circuit comprising an interconnect (11) for connecting to a write head (10), at least one resistor (R_{PA1} , R_{PA2}) between a control voltage (V_{CC}) and the interconnect for impedance matching to the interconnect, and means for shunting (Q_7 , Q_8) at least a portion of the current that would otherwise pass through the at least one resistor during an overshoot mode (column 5, line 7-42).

Regarding claim 12, Leighton et al disclose an impedance matched write circuit wherein the means for shunting current comprises a transistor circuit (see at least transistors Q_7 and Q_8 , and disclosure thereof).

Regarding claim 16, Leighton et al disclose an impedance matched circuit wherein a gate voltage of the transistor circuit is controlled by a gate voltage source ($V_{Y(\text{delay})}$, $V_{X(\text{delay})}$) such that the transistor circuit is turned on in an overshoot mode (see Fig. 5 and disclosure thereof).

Regarding claims 17 and 18, method claims 17 and 18 are drawn to the method of using the corresponding apparatus claimed in claims 11 and 12. Therefore method claims 17 and 18

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correspond to apparatus claims 11 and 12, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leighton et al U.S. Patent No. 6,512,646.

Regarding claims 13 and 14, Leighton et al disclose an impedance matched write circuit comprising all the limitations of claim 12 as discussed above the claimed invention except for the transistor circuit comprising PMOS and NMOS transistors. It would have been an obvious matter of design choice to use PMOS or NMOS transistors since the applicant has not disclosed that implementing such transistor types solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with BJT transistor types as illustrated by Leighton et al.

Regarding claim 19, method claim 19 is drawn to the method of using the corresponding apparatus claimed in claims 13 and 14. Therefore method claim 19 corresponds to apparatus claims 13 and 14, and is rejected for the same reasons of obviousness as used above.

Allowable Subject Matter

5. Claims 1-10 are allowed.

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6. The following is an examiner's statement of reasons for allowance:

Regarding claims 1-10, claim 1 discloses an impedance matched write circuit, wherein at least one resistor is connected between a control voltage and an interconnect for impedance matching to the interconnect and a transistor circuit connected across the at least one resistor to shunt at least a portion of the current that would pass through the at least one resistor during an overshoot mode, which is neither disclosed or an obvious variation of the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 15, 20, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 15, 20, and 21, prior art fails to disclose or suggest an impedance matched write circuit and corresponding method comprising all the limitations of claims 12 and 18 respectively further wherein drain and source connections of the transistor circuit are connected to each side of the at least one resistor.

Response to Arguments

8. Applicant's arguments with respect to claims 11-21 have been considered but are moot in view of the new grounds of rejection.


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN 
October 23, 2006


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER